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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/997,794      | 11/30/2001  | Chul Ha Kim          | CU-2735 VE          | 4976             |

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EXAMINER

DUONG, TAI V

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 12/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/997,794

Applicant(s)

KIM ET AL.

Examiner

TAI DUONG

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_.

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The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is rejected as being incomplete for omitting essential elements and structural cooperative relationships of elements, such omission amounting to a gap between the elements and between the necessary structural connections. See MPEP § 2172.01. The omitted elements and structural cooperative relationships are: a thin film transistor having a source connected to the data line and a drain connected to the second transparent electrode in a first region and to the first transparent electrode in a second region. Due to the above omission, it is unclear how the data voltage can be applied to the second transparent electrode in a first region and to the first transparent electrode in a second region.

Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: the steps of forming the thin film transistor having a source connected to the data line and a drain connected to the second transparent electrode in a first region and to the first transparent electrode in a second region. Due to the above omission, it is unclear how the data voltage can be applied to the second transparent electrode in a first region and to the first transparent electrode in a second region.

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In claims 1 and 5, it is unclear what the intended meaning of the phrase "divided on" is. In claims 1 and 5, it is unclear whether the recited feature "the voltages" (last two lines) refers to the "data voltage" or different voltages. In claim 5, it is unclear whether the limitation "a data voltage being applied to the second transparent electrode in a first region and to the first transparent electrode in a second region, a sum of the voltages applied to applied to the pixel region having a zero voltage" is a step of the method of fabricating the LCD or a step of a method of using (operating) the LCD. In claim 7, it is unclear to which structure the resultant structure refers and what the structure of the resultant structure is. Claim 9 is confusing because its preamble is inconsistent with that of claim 5 on which it depends. The remaining claims are also rejected since they depend on the indefinite claims.

The following is a statement of reasons for the indication of allowable subject matter:

None of the prior art of record discloses or suggests a fringe field switching mode LCD or a method of making a LCD wherein the LCD comprises a pixel region defined in a space formed by the gate lines and data lines, a first transparent electrode formed in the pixel region and divided in at least two regions, a second transparent electrode insulated from and located above the first transparent electrode, the second transparent electrode being divided in regions as many as the first transparent electrode, a thin film transistor having a source connected to the data line and a drain connected to the second transparent electrode in a first region and to the first transparent electrode in a second region, a data voltage being applied to the second transparent electrode in a

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first region and to the first transparent electrode in a second region, a sum of the voltages applied to applied to the pixel region having a zero voltage.

Claims 1 and 5 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Claims 2-4 and 6-9 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Deffontaines et al disclose the application of voltages of opposite polarities to the interdigitated counter electrodes.

Shibahara et al disclose the application of data voltages of opposite polarities to the odd and even data lines while inverting the polarity of the gate lines per scanning cycle in a fringe field switching mode LCD

Any inquiry concerning this communication should be directed to Tai Duong at telephone number 703 308-4873.



TVD

12/02



KENNETH PARKER  
PRIMARY EXAMINER